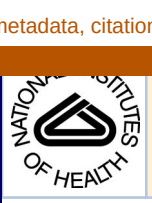

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Coping Profiles Common to Older African American Cancer Survivors: Relationships to Quality of Life

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Abstract

Context—Cancer survivors employ distinct sets of coping behaviors that vary in their associations with psychological health and quality of life. However, existing research has largely focused on white and middle class subjects.

Objectives—This study explores whether clusters with differing coping profiles could be identified among older African American cancer survivors and whether these profiles varied on cultural factors and physical, psychological, and relationship well-being.

Methods—Four hundred forty-nine older African American cancer survivors recruited from outpatient oncology clinics completed a questionnaire booklet containing the Ways of Helping Questionnaire (WHQ), the Brief Index of Race-Related Stress (IRRS), the Religious Involvement Scale, Mutuality Scale, and the Short Form 12 Health Survey Questionnaire (SF-12). A k-means cluster analysis was conducted using the WHQ.

Results—Four distinct coping profiles were identified and labeled High Coping, Low Encouraging Healthy Behaviors, Low Coping and Strong/Distracting Behaviors. Coping profiles were associated with participant's gender, age, and living alone. Controlling for these demographic differences, coping profiles were associated with religiosity, experiences with racism, and physical, psychological and relationship well-being.

Conclusions—The findings from this study lend support for examining coping profiles and health outcomes among African American cancer survivors. This research also suggests that these profiles vary on cultural factors. This information should prove useful to researchers as they develop culturally appropriate interventions for this underserved population.

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Keywords

cancer; African Americans; coping profiles; cluster analysis; religious involvement; experienced racism; quality of life

Introduction

The National Cancer Institute (NCI) has determined that overcoming cancer health disparities requires the development and dissemination of culturally appropriate interventions (1). The accomplishment of this goal requires research that identifies cultural influences on behaviors and health outcomes associated with those behaviors. Although researchers have designed interventions that are culturally appropriate for African American populations, these studies assume their samples are homogeneous, or of a monolithic cultural background (2). As a result, intervention studies to alleviate cancer health disparities among African Americans focus on behavioral changes of the broader group, ignoring the existence of varying cultural experiences on these behaviors. Researchers have acknowledged the existence of subgroups of cancer survivors who vary on coping styles and that these coping styles differentially affect psychological health. However, these studies have focused largely on Caucasian subjects (3,4). Research is also needed among African American cancer survivors to identify their coping profiles and the cultural experiences that influence these profiles. This article contributes to that task.

The overall decrease in cancer among African Americans suggests the gap in cancer health disparities is closing (5). However, African American communities have not seen the same level of reductions inasmuch as they continue to have the highest death rates and shortest survival times of any other racial or ethnic group (5). This is perhaps due to the additional challenges facing this population, such as disproportionate unemployment, lack of economic resources, low educational levels, racial discrimination, and barriers accessing high quality treatment and follow-up care (5). Moreover, the traditional support systems within the African American community are more likely to express stigmatizing and fatalistic attitudes toward cancer survivors (6).

This study applies the Stress and Coping Theory to an African American population of cancer survivors to examine relationships among coping and psychosocial variables (7). This theory has been used to explain the effects of coping strategies on health outcomes in stressful situations and to identify characteristics of the person and environment that influence these strategies. Among African Americans, the preference to use certain coping strategies over others may be shaped by experiences of racism and oppression, as well as by deeply rooted religious beliefs (8,9). Thus, in the face of a cancer diagnosis and treatment, African American cancer survivors may engage in a variety of coping strategies that affect a range of health outcomes. Consistent with this framework, experiences with religious involvement and racism reflect personal and environmental characteristics while relationship well-being and quality of life reflect health outcomes.

Experienced Racism, Coping, Relationship Well-Being and Quality of Life

Experienced racism is an internalized stressor and contributor to the health disparities found among African Americans with mental health problems and with cancer (10–12). Community dwelling African American elders report a history of lived and recent experiences with discrimination that result in feelings of hurt, educational inequalities, physical abuse, and negative self-perceptions (13). African Americans with chronic health problems report higher levels of experienced racism than their Caucasian counterparts, and these experiences are associated with delaying or avoiding seeking medical care and increased bodily pain (11,14). Among community-dwelling African Americans, experiences with discrimination, whether recent or not, were shown to affect health care utilization (15). Perceptions and experiences of racial discrimination are likely to affect the quality of relationships with family and friends as well as the receipt of social support from these relationships. Fears of racial discrimination and concerns about confidentiality among African American breast cancer survivors contributed to a reluctance to disclose information of their cancer diagnosis to family members and work colleagues (16). These behaviors likely limit the social support available from these networks, socially isolating the individual and leading to poorer overall health (6,17). Coping strategies used by cancer survivors can modify the relationship of perceived discrimination on these negative health outcomes. For example, the recall of pleasant memories, medical self-care strategies, and religious practices are coping strategies reportedly used among African American elders in response to discrimination (13). However, few studies have examined the influence of coping strategies on relationship well-being and health outcomes among older African Americans.

Religious Involvement, Coping, Relationship Well-Being and Health Outcomes

Religious involvement, including church attendance and engaging in religious practices outside religious institutions, are experiences that are very important in the lives of African Americans (18). Historically, organized religious communities served as a major social institution within the African American community but also a place for worshipers to pray together, sing songs together, socialize and console one another, and express pent up emotions related to their hardships (19,20). In addition to serving as a place of worship, religious institutions within the African American community contribute to both the formal and informal sources of support of its members. Formal sources of support are in the form of health-related educational programs and transportation to physician appointments (21,22). When African Americans are more involved in their religious institutions and associated activities, they have access to the informal sources of support that allow individuals to stay in their homes, forgoing placement in long-term facilities and the encouragement to participate in cancer screening and other health promoting activities (23,24). For African American cancer survivors, the benefit of engaging in religious beliefs and traditions is strong familial relationships, improved quality of life, and decreased depression; relationship and health outcomes likely attributed to the social support received from affiliations with religious institutions and practices (25–27).

While a majority of research on religious participation among African Americans emphasizes the benefits to relationships and health outcomes from these activities, there are instances where religious participation results in encounters with negative social interactions

(22). The expectations of church memberships to contribute financially and through active involvement in organized church groups are gratifying but likely too demanding for the cancer survivor experiencing treatment side effects leading to perceptions of negative relationships with fellow church members (22).

Coping Strategies, Relationship Well-Being, and Health Outcomes

Coping is generally conceptualized as cognitive and behavioral strategies used to manage threatening situations or problems (28). Researchers have conceptualized coping in cancer survivors as the adoption of attitudes and behaviors that lead to psychological adjustment and emotional well-being (29–31). Types of coping strategies evaluated in research with majority populations include acceptance, problem solving, cognitive reframing, positive thinking, and social support (32,33). However, these strategies are used less frequently among African Americans (34,35). Research focused on coping among African American cancer survivors, which is generally descriptive, informs us that at the core of preferred coping strategies are social interactions among close ties with family, friends, and neighbors, engaging in dynamic reciprocal relationships with family, friends, and church members, and a connectedness to God (36–39). In this report, we evaluate relationships of coping strategies grounded in these conceptualizations with relationship, physical, and psychological well-being.

The use of cluster analysis is becoming increasingly common to identify subgroups based on psychosocial variables in cancer populations. Studies have identified profiles of coping profiles of coping responses on psychosocial adjustment to cancer, profiles of coping on multiple domains of quality of life, and profiles of cancer survivors according to symptom burden and psychological adjustment (3,4,40–42). However, this study is the first to examine profiles of coping styles using coping strategies derived from research with an African American cancer population and their association with psychosocial variables. Research with Caucasian cancer populations has identified dominant coping styles associated with high level psychosocial adjustment, yet, similar work in African American cancer survivors remains to be conducted (4). This research builds on previous descriptive research with older African American cancer survivors and uses a culturally appropriate measure of preferred coping strategies that has been rigorously evaluated within a stress and coping theoretical framework (43).

The goals of this study are 1) to examine whether patient subgroups with differing coping styles can be identified; 2) to determine whether subgroups differ on demographic and illness characteristics (age, income, education, marital status, proximity to family, and phase of illness); and, 3) to determine whether subgroups differ on psychosocial variables (experiences with racism, religious involvement, and relationship, physical, and psychological well-being).

Methods

Sample

A convenience sample of 449 African American cancer survivors was included in this study. The participants in this study were part of a larger NIH-funded study, Helping Older African American Cancer Survivors Cope Study (J. Hamilton, PI). The parent study was designed to evaluate a new measure of preferred coping strategies for older African American cancer survivors. Survivors were recruited from several outpatient oncology clinics in a large metropolitan area in the southeastern US. Inclusion criteria for the participants were: 1) a diagnosis of cancer; 2) self-reported to be African American; 3) without severe cognitive impairment, and; 4) between 50 to 89 years of age. Participants completed a comprehensive questionnaire that included demographic medical information, coping and quality of life measures, a depression scale, and a religious involvement scale. Written informed consent was obtained for all interviews after screening for cognitive impairment with the Short-Form Mini Mental State Exam (MMSE). According to the MMSE, no participants were severely cognitively impaired. Questionnaires were administered in a face-to-face interview format in a private room or the patient's home. The study was approved by the Institutional Review Boards of the University of North Carolina at Chapel Hill and Emory University.

Measures

The *Ways of Helping Questionnaire* (WHQ) was used to identify patient subgroups with differing coping styles. This questionnaire was developed from qualitative research with older African American cancer survivors and consists of 38 items to measure 10 coping strategies: 1) Others There for Me; 2) Physical Care and Treatment Needs; 3) Help from God; 4) Church Family Support; 5) Helping Others; 6) Being Strong for Others; 7) Encouraging My Healthy Behaviors; 8) Others Distract Me; 9) Learning About Cancer; 10) Distracting Myself. These preferred coping subscales are described elsewhere (43). The first strategy, Others There for Me, reflects support from the emotional presence of family members and friends and knowing that a family member or friend will be there to share the burden of cancer, that the survivor will not be abandoned. The second strategy, Physical Care and Treatment Needs, reflects the types of instrumental support received during times of decreased physical functioning. These items include needed assistance with shopping, errands, cleaning house, driving, and banking. Help from God, the third strategy, consists of items that reflect coping through spiritual beliefs that God is an all-powerful figure available to provide healing and support throughout the cancer experience. The fourth strategy, Church Family Support, reflects support from the church family to maintain religious practices, to stay connected to religious communities, and to maintain valued social roles. The fifth strategy, Helping Others, reflects the experience of coping through encouraging others to be screened or treated for illness. The sixth strategy, Being Strong for Others, reflects the value of needing to be strong and self-reliant in the context of adversity, with an emphasis on concealing aspects of one's illness to keep others from worrying. The seventh strategy, Encouraging My Healthy Behaviors reflects support from others that encourages and monitors the survivor's healthy behaviors. The eighth strategy, Others Distract Me, reflects engaging in activities with family members and friends that distract from negative, intrusive thoughts, and encourages participation in physical or social activities. The ninth

strategy, Learning about Cancer, reflects the support from family and friends that assists the cancer survivor to learn more about their cancer and to get their questions answered. The tenth and final strategy, Distracting Myself, consists of items that reflect survivors' efforts to distract themselves from the situation, for example, by keeping occupied and taking time to be alone.

The WHQ scale uses a 5-point response format (0=not at all/does not apply, 1=a little, 2=some, 3=a lot, and 4=all the time). Validity for the WHQ scale has been evaluated with a sample of older African American cancer survivors through evaluations of its internal structure and associations to physical, psychological, and social well-being (43). In this study, the internal consistency (Cronbach's alpha) reliabilities for the 10 WHQ subscales ranged from 0.59 to 0.88.

The *Religious Involvement Scale* was included to determine the influence of religious involvement on coping strategies. This measure has three dimensions of religious involvement: Organized religious participation, Non-organized religious participation, and Subjective religiosity (44). Organizational religiosity includes items that capture frequency of church service attendance, church membership, and frequency of participation in congregational activities. Non-organizational religiosity includes reading religious materials, watching or listening to religious programs, praying and asking someone to pray with you. The third dimension, Subjective religiosity, includes items that evaluate self-religiousness—the overall importance of religion in one's life, the importance of religion when growing up, and importance of religion in children's lives (44). Validity for the Religious Involvement scale has been evaluated with a nationally representative sample of older African American adults (n = 581, age 55 and older) through evaluations of the internal structure and relationships with exogenous variables. Model testing with confirmatory factor analysis confirmed a three dimensional scale and exogenous variables (age, gender, education, marital status, income, region, and urbanicity) predicted religiosity (44). In this study, the internal consistency (Cronbach's alpha) reliabilities for the organizational, non-organizational, and subjective religiosity subscales were 0.77, 0.63, and 0.44, respectively.

The *Brief Index of Race-Related Stress* (IRRS) was included to determine the influence of experiences with racial discrimination on coping strategies (45,46). The IRRS is a 22-item questionnaire that quantifies the stress experienced from long time exposure to racism and has four subscales: Cultural Racism, Institutional Racism, Individual Racism, and Collective Racism. The four types of racism are conceptualized as 1) cultural racism—perceived racial discrimination that occurs when practices of one group treats another as inferior; 2) institutional racism—when policies of institutions, such as places of work, are discriminatory toward certain groups; 3) individual racism—discriminatory practices that occur in day-to-day encounters, on a personal level; and, 4) collective racism—when organized groups of individuals engage in practices that hinder the rights of others. Responses for this scale have a Likert-type format to measure whether a racist event was ever experienced and the degree to which that event was upsetting: 0 = event never happened, 1 = event happened but not upset, 2 = event happened and I was slightly upset, 3 = event happened and I was upset, and 4 = event happened and I was extremely upset. The

responses for this measure are totaled for each category of race-related stress. In this study, coefficient alphas for the subscales ranged from 0.81 to 0.93.

Three dimensions of health outcomes are included: relationship, physical and psychological well-being. Specifically, measures of mutuality, quality of life, and depression were included to determine whether coping strategies affected these outcomes.

The scale, *You, Your Family and Friends* is a 10-item scale used to measure mutuality, which is defined as relationship well-being between participants and their family and friends. The scale was adapted from a 15-item mutuality scale designed for use with family caregivers and their frail or ill older relatives (45). The magnitude of the score indicates the degree to which their relationships are characterized by love, shared pleasurable activities, and reciprocity, using a 5-point response format, ranging from 0 = not at all to 4 = a great deal. Evidence that worsening health in ill older adults over 20 months was associated with declines in their mutuality with a family caregiver provides evidence for construct validity of the original Mutuality Scale and highlights its relevance for this study of cancer survivors (47). Cronbach's alpha in the current study was 0.84.

The *Short Form-12 Health Survey Questionnaire* (*SF-12*) (version 2) is a shorter version of the SF-36, a measure of general health and quality of life commonly used among both African American and Caucasian populations (48). The SF-12 is a 12-item Likert-type scale that measures quality of life on eight subscales: Physical Functioning, Role Physical, Bodily Pain, General Health, Vitality, Social Functioning, Role Emotional, and Mental Health. For broader measures of quality of life, the eight subscales can be summarized in a physical component summary (PCS) and mental component summary (MCS). The PCS measures general physical health, capturing limitations in physical function, role limitations due to physical health problems, bodily pain, and general health. The MCS measures general mental health, limitations in usual role activities because of emotional problems, vitality (energy and fatigue), and social functioning. Higher scores on this scale indicate better outcomes.

Statistical Analysis

All data analyses were conducted using SPSS for Windows, version 17 (SPSS Inc., Chicago, IL). In order to identify subgroups of patients with similar coping profiles, we used k-means clustering to first identify typical coping profiles used by the older African American cancer survivors. Each individual's score on each WHQ subscale was first converted to a percentile score (this standardization was performed to allow for comparability between subscales with different sample means, and was preferred to a z-score because it mitigated the large negative skew found in some of the subscales). These percentile scores were then clustered according to the k-means procedure to identify distinct profiles of coping behavior. K-means clustering classifies multivariate observations (in this case, multivariate refers to the set of 10 strategies measured on each participant) into distinct groups. It uses an iterative procedure to identify cluster centers, assigning each participant to the cluster whose center is closest to his/her observed data. The number of clusters retained was based on parsimony and tightness of the clusters. This yields a set of cluster centers, describing typical coping

profiles, and divides the participants into subgroups according to which typical coping profile most closely matches their data.

The association between demographic variables and coping profiles (i.e. cluster membership) was explored using ANOVA for continuous variables and chi-square tests for categorical variables. Multiple regression analysis was used to assess the relationship between coping profiles and psychosocial variables, controlling for demographic variables found to be associated with the coping profiles.

Results

The demographic and clinical characteristics of the 449 African American cancer survivors who participated in this study are shown in Table 1. Participants had a mean age of 63.8 years (standard deviation [SD]=8.1) and the majority were female (58%). The sample captured many different educational levels approximately equally. About 25% of the sample was currently married; however, the majority was widowed, divorced, or separated (62%). Only 31% lived alone. At the time of the interview, 10.7% of the sample was employed in some manner, 36% were retired, and 41.9% had quit their jobs due to worsening health. The majority of the participants had health insurance (76%). The most prevalent cancer diagnosis was breast (31%) followed by lung (18%), prostate (11%) and colon (11%). Of those participants whose cancer stage was documented, 20% were diagnosed at late stages. Arthritis (46%) and hypertension (48%) were common in the participants.

The cluster analysis yielded a solution of four clusters, or subgroups, each characterized by a unique coping profile. The cluster mean coping profiles (in percentiles) are shown in Figure 1. Table 2 gives the four coping profiles in the original units (mean of items on a 0–4 Likert scale). The clusters were named to describe the differences between the coping profiles. The first cluster, Low Religiousness/Social Interacters (Low Coping), containing 28% (*n*=124) of the sample, is characterized by the lowest levels of seeking and using social support from God and one's church family. This cluster had the lowest levels of engaging in social interactions for the purpose of helping others and was the least likely of all the clusters to engage in distracting behaviors either with family and friends or alone.

The second cluster, Low Encouraging Healthy Behaviors/High Helping Others (Low EHB), containing 22% (*n*=101) of the sample, had the highest levels of coping through helping others and the lowest levels of receiving the support from others to encourage their healthy behaviors. This group was also high on coping through seeking and using support from family, friends, and church family and engaging in activities that were distracting from the illness.

The third cluster, High Strong/Self-Distracting Behaviors (Strong/Distracting), containing 21% (*n*=93) of the sample, was the highest cluster on being strong and engaging in isolated activities that distracted from the illness. This cluster was also lowest in seeking and using the support of others for emotional support and assistance with physical care needs.

The fourth cluster, High Religiousness/Social Interacters (High Coping), containing 29% (*n*=131) of the sample, was highest on seeking and using emotional support, physical care

support, instrumental support from family, friends, church members, and Help from God. This cluster was highest on levels of support that focused on the illness. For example, they were encouraged on healthy behaviors, engaged in activities that distracted from the illness, and shared their illness experiences for the purpose of helping others.

To examine potential confounders, we compared clusters with respect to each of the demographic variables in Table 1. ANOVA was used for continuous variables and Chi-square tests for categorical. There were three demographic variables that differed statistically significantly among the clusters: gender, age, and whether the participant lived alone. Marital status was also marginally significant. Initially, Chi-square tests found differences between the clusters with respect to type of cancer and diagnosis of arthritis. However, there is a large gender difference across clusters, a gender difference in cancer types (most notably breast and prostate cancer) and a higher incidence of arthritis in females than males. Once gender was controlled for in a stratified Chi-square analysis, cancer type and arthritis were no longer associated with cluster membership. There was no association between cluster and education, employment status, health insurance, stage at diagnosis, or co-morbidities. In order to explore the nature of differences across clusters, cluster-specific values for the significant demographic variables are given in Table 3.

The Strong/Distracting Behaviors cluster was the youngest on average, and the Low Coping cluster was the oldest. Even though the entire sample was 42% male, the Low Coping cluster was 58% male and the Low EHB cluster was only 28% female. Men also fell slightly disproportionately into the Strong/Distracting Behaviors cluster, and females slightly disproportionately into the High Coping cluster. Participants in the Low Coping cluster were the oldest, over four years older on average than those participants in the Strong/Distracting Behaviors cluster, which consisted of the youngest age group. Participants of the High Coping cluster were most likely to live alone, and of the Strong/Distracting Behaviors cluster least likely to do so. Marital status was also marginally significant, with members of the Strong/Distracting Behaviors cluster more likely to be married than the other participants. The clusters did not differ with respect to stage of illness, income, or education.

The next phase of the analysis was to explore the relationships between coping profiles and the psychosocial variables: religious involvement, experienced racism, relationship well-being, and quality of life. Sample descriptive statistics on these variables are given in Table 4. In U.S adults, the SF-12 subscale scores have a mean of 50 and a standard deviation of 10, so this population tends to fall about 1 standard deviation below the national average (48). The averages on the experiences with racism scales was between 1 and 2 (“the event happened but I was not upset” and” the event happened and I was slightly upset”). Mutuality in the sample was moderately high, with the average response indicating “quite a bit” of closeness with family and friends.

We modeled the relationship between coping profiles and the psychosocial variables with multiple regression models, controlling for demographic variables identified as potential confounders (gender, age, and living alone). F-tests from the multiple regression are reported in Table 4. Even after controlling for potential confounders, many of the psychosocial variables are statistically significantly related to coping profile. For the

variables in Table 4 that are significantly related to coping profile, the nature of the differences is displayed graphically in Figure 2.

Participants in the Low Coping (Low Religiousnes/Social Interacters) cluster had low levels of religious involvement and near-median experiences with racism. Scores for health outcomes of mutuality and general health were also below the median. All other scores on subscales of the SF-12 were about average for this group. These participants would be characterized as “relationship, physically, and psychologically unhealthy.”

Members of the Low EHB (Low Encouraging Healthy Behaviors/High Helping Others) cluster had very high organizational religiosity, moderately high non-organizational religiosity, but below average on subjective religiosity. Their experiences with racism were the lowest of all the clusters and health outcomes for this group were highest of all the clusters. Mutuality was above average and subscales on the SF-12 were the highest of all the other clusters. These participants would be characterized as “relationship, physically, and psychologically healthy.”

Membership in the Strong/Distracting Behaviors (High Being Strong/Self-Distracting) cluster was associated with low organizational and non-organizational Religiosity, but high subjective religiosity. Experiences with racism were above the average. Health outcomes of mutuality and mental health were low while scores on the other subscales of the SF-12 were about average for this sample. These participants would be characterized as “relationship and psychologically unhealthy.”

The participants in the High Coping (High Religiousness/Social Interacters) cluster tended to have all types of religious involvement and experiences with racism well above the sample average. Their mutuality was also above the sample median while their physical functioning was low. These participants would be characterized as “physically unhealthy.”

Discussion

The results of this study demonstrate that four different subgroups of older African American cancer survivors can be identified using cluster analysis. In analyzing these coping profiles, we used an approach similar to that described in Trask and Griffith (4) to characterize subgroups as healthy or unhealthy according to health outcomes of relationship, physical, and psychological well-being and coping styles according to the subscales of the Ways of Helping Questionnaire (4,43). Statistically significant differences among subgroups were also found on demographic characteristics such as age, gender, and proximity to family.

The study findings of four distinct subgroups allowed for some interesting comparisons. The two healthiest subgroups (Low EHB—relationship, physically, and psychologically healthy) and (High Coping—relationship and psychologically healthy) contained a disproportionate number of women and had high levels of organizational religious involvement (church membership, frequency of church and congregational activities) and non-organizational religious involvement (frequency of reading religious materials, watching religious television programs, and praying). However, there were noticeable differences between

these two subgroups especially with respect to their experiences with racism (cultural, institutional, individual, and collective). The healthiest subgroup--Low EHB, had the lowest levels of experienced racism and the High Coping subgroup reported high levels of experienced racism. Since the High Coping subgroup was lower on physical functioning with higher average scores on all categories of experienced racism, one can only infer that members of this subgroup were likely more affected by the cancer and their experiences with racism affected the sources and types of support used. For example, their history of negative racist events at individual and institutional levels may have transferred to mistrust of health care institutions and to distrust health care providers associated with those institutions placed in charge of providing care and information (49,50). This follows directly from their higher levels of seeking support from family and friends to get cancer information, questions answered, and to validate information received from their health care providers (51).

Cancer survivors in the Low EHB subgroup were also higher on seeking cancer information from family and friends but lower on experiences with racism. However, members of this coping profile were highest on Helping Others (teaching others what they have learned about cancer and encouraging others to seek treatment for cancer) suggest that this subgroup may be more trusting of their health care providers and more likely to access the medical care provided. However, it is not clear why these two groups with similar demographics would have such different experiences with racial discrimination. Quite possibly, the answer lies in the religious backgrounds or affiliations of these survivors and whether certain religious institutions encourage the compensation of negative life events. For example, some religious denominations encourage expressions of resistance to racism, while others do not and instead encourage more quietist responses for parishioners (52).

The two unhealthy subgroups (Low Coping—socially, physically, and psychologically unhealthy) and (Strong/Distracting—socially and psychologically unhealthy) had higher percentages of men (58.1% and 46.2%, respectively). The Low Coping profile demonstrated the lowest levels of organizational, non-organizational, and subjective religiosity, the lowest on mutuality, and lowest on general health. Moreover, this coping profile scored low on all types of coping strategies; slightly above the average level for social functioning and similar to the Strong/Distracting group in their lower than median levels of mutuality. The Strong/Distracting Behaviors profile demonstrates high subjective religiosity, low mutuality, and organized and non-organized religious involvement, coupled with higher than median levels of experienced institutional racism, and physical functioning. This profile may indicate older persons who are self-reliant and more likely to utilize self-care rather than informal sources of support in relation to their cancer experience.

This study supports other study findings that African American men report high levels of racism, have the lowest levels of church membership, and as men in their roles as head of household are expected to be strong and self-reliant (21,53,54). Lastly, while being strong in the face of adverse life events has been promoted within the African American community as a positive attribute, the findings from this study suggest that being strong and especially being strong and socially detached is not a positive attribute and in fact may result in a socially isolated survivor with poor psychological health (55). While our study does not

detail the possible reasons for being socially detached, research with other African American cancer survivors suggests that fears of being treated differently or exposure to negative comments from family and friends drives that survivor to seek out the support from formal sources (6). Krause (56) suggests that negative interactions may be the result of feelings of guilt or of wrongful treatment and subsequent broken relationships signals failure for the individual. For the cancer survivor, a broken relationship is especially distressing. In addition to working toward a resolution of cancer survivorship issues, the individual with negative social ties must also seek out new support systems (6).

The identification of subgroups among this sample of older African American cancer survivors provides useful information on coping strategies linked to health outcomes that could be used to enhance the design of coping interventions for this population. For example, given that engaging in supportive social interactions with family, friends, and church family members was highest among the two healthy subgroups and lowest among the two unhealthy subgroups, one recommendation would be to design coping interventions that strengthen the support available from existing familial relationships. Existing research emphasizes the importance of religious coping among African Americans; however, it is critical to remember the importance of finding ways to include family in the design of psychosocial interventions. While religious coping may be beneficial, the more important finding here is the need to minimize racism and the perception thereof, for in minimizing this, all persons, whether religious or not, will cope better with cancer.

Secondly, given that institutional racism was highest among the subgroup with the lowest level of mental health functioning (Strong/Distracting), it would seem imperative for psychosocial interventions to address perceptions of institutional racism at the earliest point of contact with health care providers. The inclusion of an assessment of racism is especially important to subgroups of African Americans who may lack attachment to compensating outlets such as religious institutions. The minimization of perceptions of racism could drastically affect cancer health disparities among this underserved population. While we cannot dictate religious doctrine in the churches or even wipe away the influence of a life-time of religious teachings, we can have control over the social interactions in health care institutions that promote feelings of inferiority. While religious coping may be beneficial a more important finding here is need to minimize and the perception thereof for in minimizing this all persons whether religious or not will cope better with cancer.

Our findings lend support to the beneficial effects of religious involvement as the two healthiest subgroups had the highest levels of organized and non-organized religious participation. While the effects of cancer are likely to limit physical functioning and church attendance, African American cancer survivors may likely benefit from continuing in those religious activities that are health promoting. Researchers have identified the potential health benefits of prayer and reading religious materials but have ignored the benefits of other religious practices within the church that are comforting as well.

Limitations

There were several limitations to this study. First, the study was cross-sectional and thus limited our ability to determine the effect of the illness on the variables studied. For

example, we were not able to determine if support from family and friends for members of the low coping profiles were low prior to the cancer or as a result of the cancer. Secondly, our sampling strategy included recruitment from an outpatient cancer center from persons in treatment and being seen for follow-up care. Although there were no significant differences in these cancer survivors according to time since treatment and stage of illness, our profiles of these cancer survivors does not distinguish those who are cancer free from those receiving palliative care. Finally, the measure selected for experienced racism did not include items specific to health care settings.

In conclusion, this study used a cluster analytic approach to identify commonly used coping profiles in a heterogeneous sample of older African American cancer survivors. The comparison of the subgroups on measures of religious involvement and experienced racism allowed us to evaluate the effect of well-documented cultural factors that influence coping among African Americans. Future research is needed to identify possible clinical and treatment factors associated with these coping profiles that would allow for a quick assessment of survivors at risk for poor health outcomes in a health care setting. Research is also needed with longitudinal designs to determine profile changes during the phases of illness and to address social and cultural determinants of health using measures designed with populations with encounters with health care institutions.

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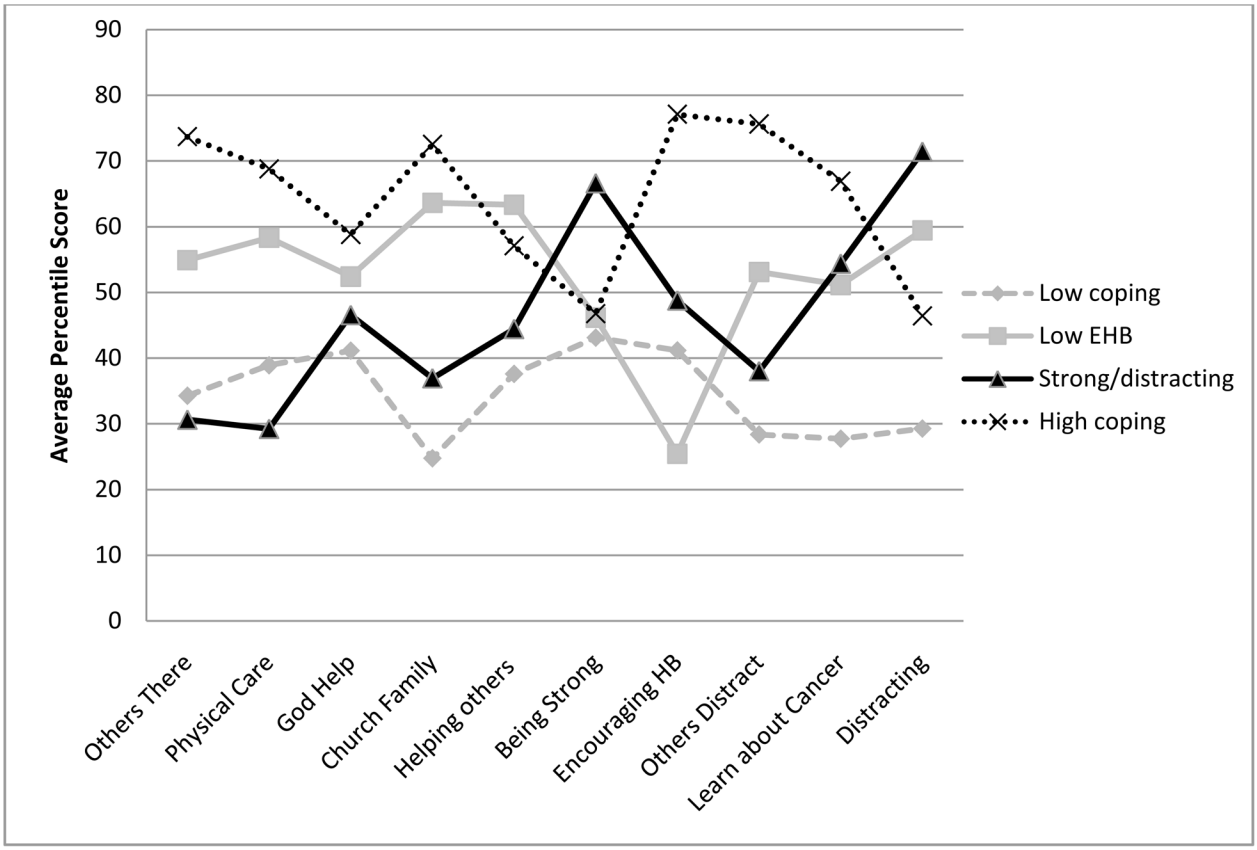
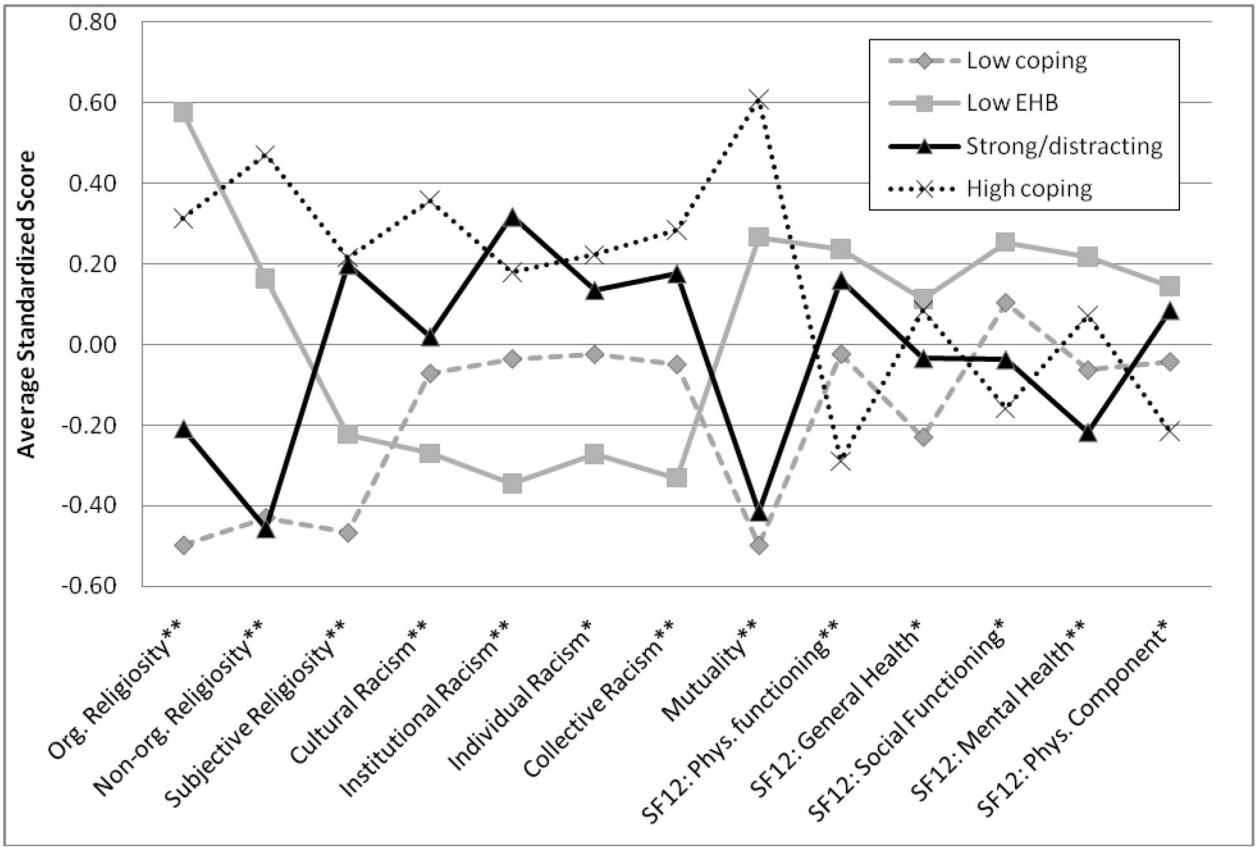


Figure 1.
Mean scores of coping strategies for the four coping clusters.



* $P < 0.05$, ** $P < 0.01$.

Figure 2.

Average standardized score on cultural factors and health outcomes for the four coping clusters.

Table 1

Demographic Characteristics of Study Sample

Variable	Sample Summary
Age (years)	
Mean (SD)	63.8 (8.1)
Gender, *n* (%)	
Male	187 (41.6%)
Female	262 (58.4%)
Education, *n* (%)	
< High School	173 (38.5%)
High School/GED	138 (30.7%)
> High School	138 (30.7%)
Marital status, *n* (%)	
Married	112 (24.9%)
Widowed	107 (23.8%)
Separated or divorced	169 (37.8%)
Never married	60 (13.5%)
Employment Status, *n* (%)	
Employed (PT/FT)	48 (10.7%)
Retired	162 (36.1%)
Quit due to health	188 (41.9%)
Unemployed	51 (11.3%)
Health insurance, *n* (%)	
Insured	341 (75.9%)
Uninsured	108 (24.1%)
Living arrangement, *n* (%)	
Alone	139 (31.0%)
Not alone	310 (69.0%)
Type of Cancer, *n* (%)	
Breast	141 (31.4%)
Lung	79 (17.6%)
Prostate	47 (10.5%)
Colon	47 (10.5%)
Head and Neck	41 (9.1%)
Other	94 (20.9%)
Stage at Diagnosis, *n* (%)	
In Situ	9 (2.0%)
I	52 (11.6%)
II	67 (14.9%)
III	61 (13.6%)
IV	93 (20.7%)
Co-morbidities, *n* (%)	

Variable	Sample Summary
Arthritis	208 (46.3%)
Diabetes	96 (21.4%)
Hypertension	216 (48.1%)
Heart Disease	50 (11.1%)

Table 2

Means and Standard Deviations of Raw Scores for Ways of Helping Coping Strategies for Each Cluster

	Total Sample ***n*=449**	**Low Coping** ***n* =124**	**Low EHB** ***n* =101**	**Strong/Distracting** ***n* =93**	**High Coping** ***n* =131**
Others there for me	3.31 (0.77)	2.92 (0.87)	3.5 (0.54)	2.85 (0.79)	3.86 (0.25)
Physical care and treatment needs	1.76 (1.22)	1.29 (1.04)	2.09 (1.12)	0.89 (0.79)	2.56 (1.08)
Help from God	3.74 (0.59)	3.52 (0.8)	3.79 (0.57)	3.72 (0.55)	3.91 (0.25)
Church family support	2.06 (1.03)	1.18 (0.71)	2.53 (0.68)	1.61 (0.84)	2.85 (0.78)
Helping others	3.22 (1.04)	2.70 (1.21)	3.71 (0.58)	3.10 (0.96)	3.42 (0.96)
Being strong for others	1.06 (1.25)	0.79 (1.16)	0.91 (1.19)	1.72 (1.16)	0.95 (1.27)
Encouraging my healthy behaviors	2.17 (1.44)	1.77 (1.28)	0.93 (1.03)	2.17 (1.25)	3.49 (0.75)
Others distract me	2.08 (1.26)	1.15 (1.03)	2.25 (1.05)	1.59 (1.07)	3.18 (0.74)
Learning about cancer	1.79 (1.12)	0.93 (0.85)	1.83 (1.00)	1.94 (0.99)	2.46 (1.01)
Distracting myself	2.42 (1.04)	1.67 (0.97)	2.76 (0.95)	3.15 (0.56)	2.34 (0.95)

Table 3

Selected Demographic Variables for Each Cluster

Cluster Name	*n*	% Female	Average Age	% Living Alone	% Married
Low coping	124	41.9%	65.7	71.1%	72.4%
Low EHB	101	72.3%	64.4	73.3%	73.3%
Strong/distracting	93	53.8%	61.4	51.6%	86.0%
High coping	131	66.4%	63.2	76.3%	71.0%
P-value for test of difference among clusters		*P*<0.001	*P*=0.001	*P*=0.001	*P*=0.051

Table 4

Multiple Regression[a] Examining the Variability Among the Four Identified Coping Strategies with Respect to Cultural Factors and Relationship, Social, and Psychological Well-Being

Variable	Sample Mean (SD)	*n*	F (F,p)	*P*-value
Organizational Religiosity	8.4 (3.86)	119	F(3,112)=4.43	0.006**
Non-organizational Religiosity	15.7 (3.43)	123	F(3,116)=8.36	<0.001**
Subjective Religiosity	11.3 (1.13)	122	F(3,115)=4.03	0.009**
Cultural Racism	2.1 (1.01)	325	F(3,318)=6.24	<0.001**
Institutional Racism	1.1 (1.10)	325	F(3,318)=5.20	0.002**
Individual Racism	1.5 (1.13)	325	F(3,318)=3.69	0.01*
Global Racism	0[b] (2.68)	325	F(3,318)=6.03	0.001**
Mutuality	29.8 (7.01)	448	F(3,441)=37.4	<0.001**
Physical functioning	40.8 (12.07)	404	F(3,397)=5.86	0.001**
Role Physical	40.6 (12.03)	405	F(3,398)=1.89	0.13
Body Pain	44.2 (13.53)	406	F(3,398)=.22	0.88
General Health	38.2 (10.78)	404	F(3,397)=2.98	0.03*
Vitality	46.5 (12.66)	405	F(3,398)=.635	0.59
Social Functioning	32.6 (14.55)	405	F(3,398)=3.08	0.03*
Role Emotional	45.5 (13.29)	405	F(3,398)=.39	0.76
Mental Health	52.0 (11.38)	405	F(3,398)=3.92	0.009**

[a] Controlling for gender, age and living alone.

[b] Global racism is a standardized score consisting of the sum of the z-scores for cultural, institutional, and individual racism, so it is constrained to have mean 0.

* p<.05

** p<.01